

Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1-2. (Canceled)

3. (Previously Presented) A functional particle preparing method comprising steps of:

treating either one of a hollow particle or a porous particle having a pore on the surface thereof by plasma irradiation under a pressure of 10^{-2} -10 mbar ($1-10^3$ Pa),

graft polymerizing at least one type of monomer onto the surface of the plasma irradiated particle by contacting the at least one type of monomer with the surface of the plasma irradiated particle so as to substantially fill the pore of said particle with grafted polymers of said monomer;

soaking said graft polymerized particle in a solution having an inclusion to be inserted into said graft polymerized particle, where the solution having the inclusion is adjusted such that the grafted polymers shrink to form openings that allow said inclusion to pass into said pore or through said pore into a cavity region within said particle;

adjusting the solution having the inclusion such that the grafted polymers expand to close said openings and to prevent said inclusion from passing through said pore such that a functional particle having inclusion impregnated therein is obtained; and

separating said functional particle from said solution; wherein

during said plasma irradiation, plasma intensity and/or degree of vacuum are controlled; and

during said contacting the at least one type of monomer with the surface of the plasma irradiated particle, at least one of the requirements for monomer concentration, graft

polymerization temperature, and graft polymerization time is adjusted to control graft polymerization yield of said grafted polymers.

4. (Currently Amended) A functional particle obtained by a process comprising:
treating either one of a hollow particle or a porous particle having a pore on the surface thereof by plasma irradiation,
graft polymerizing at least one type of monomer onto the surface of the plasma irradiated particle by contacting the at least one type of monomer with the surface of the plasma irradiated particle so as to substantially fill the pore of said particle with grafted polymers of said monomer; and
impregnating said pore and/or a cavity region of said particle with an inclusion; wherein
during said plasma irradiation, a pressure of 10^{-2} -10 mbar ($1-10^3$ Pa), plasma intensity and/or degree of vacuum are controlled, and
during said contacting the at least one type of monomer with the surface of the plasma irradiated particle, at least one of the requirements for monomer concentration, graft polymerization temperature, and graft polymerization time is adjusted to control graft polymerization yield of said grafted polymers-polymers, and
impregnating said pore and/or a cavity region of said particle comprises:
soaking said graft polymerized particle in a solution having an
inclusion to be inserted into said graft polymerized particle, where the solution having the
inclusion is adjusted such that the grafted polymers shrink to form openings that allow said
inclusion to pass into said pore or through said pore into a cavity region within said particle;
and

adjusting the solution having the inclusion such that the grafted polymers expand to close said openings and to prevent said inclusion from passing through said pore such that a functional particle having inclusion impregnated therein is obtained.

5-6. (Canceled)

7. (Previously Presented) A functional particle preparing method according to claim 3, wherein contacting the at least one type of monomer with the surface of the plasma irradiated particle comprises soaking said plasma irradiated particle in a monomer solution or contacting said plasma irradiated particle with a monomer gas.

8. (Canceled)

9. (Previously Presented) A functional particle according to claim 4, wherein contacting the at least one type of monomer with the surface of the plasma irradiated particle comprises soaking said plasma irradiated particle in a monomer solution or contacting said plasma irradiated particle with a monomer gas.

10. (Previously Presented) A functional particle preparing method according to claim 3, wherein said graft polymerizing further comprises contacting said plasma irradiated particle with a cross-linking agent simultaneously with or subsequently to said contacting the at least one type of monomer with the surface of the plasma irradiated particle.

11. (Previously Presented) A functional particle preparing method according to claim 3, wherein said particle consists of at least one of an organic macromolecule and an inorganic macromolecule.

12-15. (Canceled)

16. (Previously Presented) A functional particle prepared by the functional particle preparing method according to claim 3.

17. (Previously Presented) A functional particle according to claim 16, wherein said grafted polymers shrink to form openings that allow said inclusion to pass into said pore

or through said pore into said cavity region within said particle at temperatures lower than a lower critical solution temperature and said graft polymers expand to close said openings and to prevent said inclusion from passing through said pore at temperatures higher than the lower critical solution temperature.

18. (Previously Presented) A functional particle according to claim 16, wherein said grafted polymers shrink to form openings that allow said inclusion to pass into said pore or through said pore into said cavity region within said particle at temperatures higher than a lower critical solution temperature and said graft polymers expand to close said openings and to prevent said inclusion from passing through said pore at temperatures lower than the lower critical solution temperature.

19. (Previously Presented) A functional particle prepared by the functional particle preparing method according to claim 3, wherein said grafted polymers of said functional particle shrink to form openings that allow said inclusion to pass into said pore or through said pore into said cavity region within said particle at temperatures lower than a lower critical solution temperature and said graft polymers expand to close said openings and to prevent said inclusion from passing through said pore at temperatures higher than the lower critical solution temperature.

20. (Previously Presented) A functional particle prepared by the functional particle preparing method according to claim 3, wherein said grafted polymers of said functional particle shrink to form openings that allow said inclusion to pass into said pore or through said pore into said cavity region within said particle at temperatures higher than a lower critical solution temperature and said graft polymers expand to close said openings and to prevent said inclusion from passing through said pore at temperatures lower than the lower critical solution temperature.

21. (Previously Presented) A functional particle according to claim 19, wherein the functional particle is a time-release particle in which said inclusion is released in response to variations in temperature around said functional particle.

22. (Previously Presented) A functional particle according to claim 20, wherein the functional particle is a time-release particle in which said inclusion is released in response to variations in temperature around said functional particle.